FIG. 1

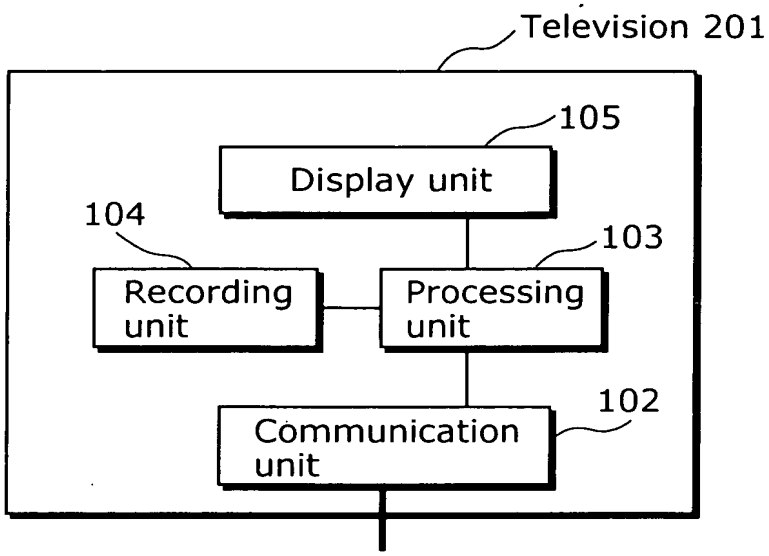

Television 201
105
Display unit
104
103
Recording unit
Processing unit
102
Communication unit

FIG. 2

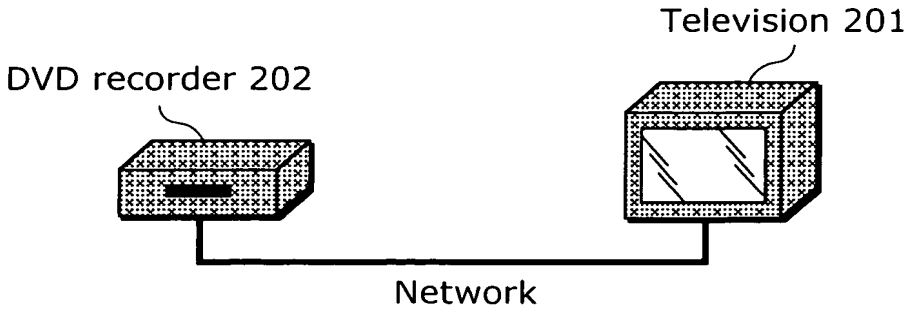

Television 201
DVD recorder 202
Network

FIG. 3

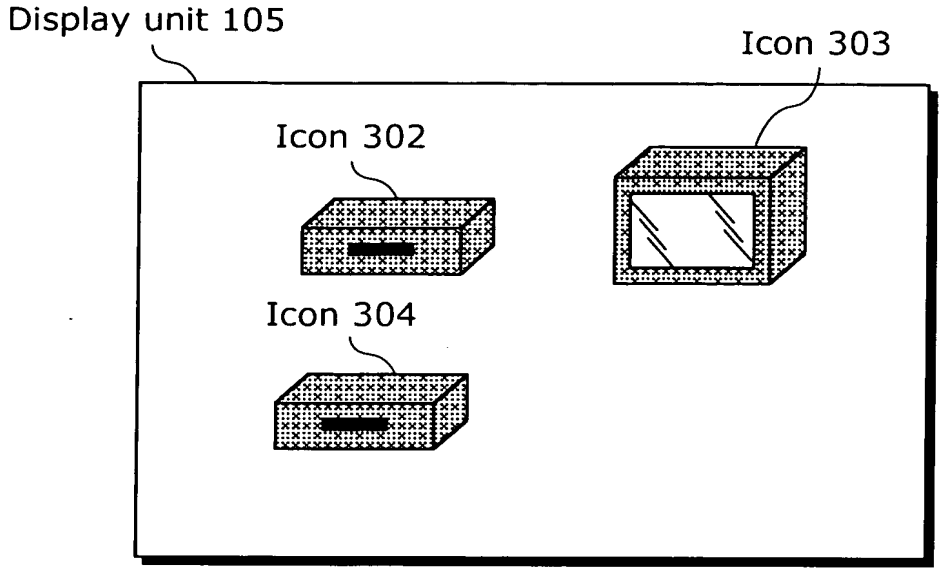

Display unit 105
Icon 303
Icon 302
Icon 304

FIG. 4

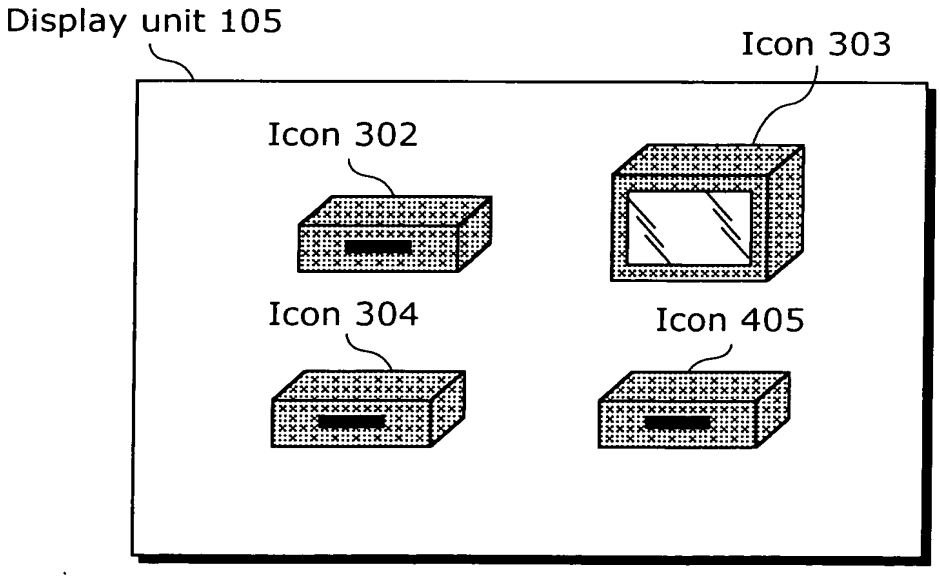

Display unit 105
Icon 303
Icon 302
Icon 304
Icon 405

FIG. 5

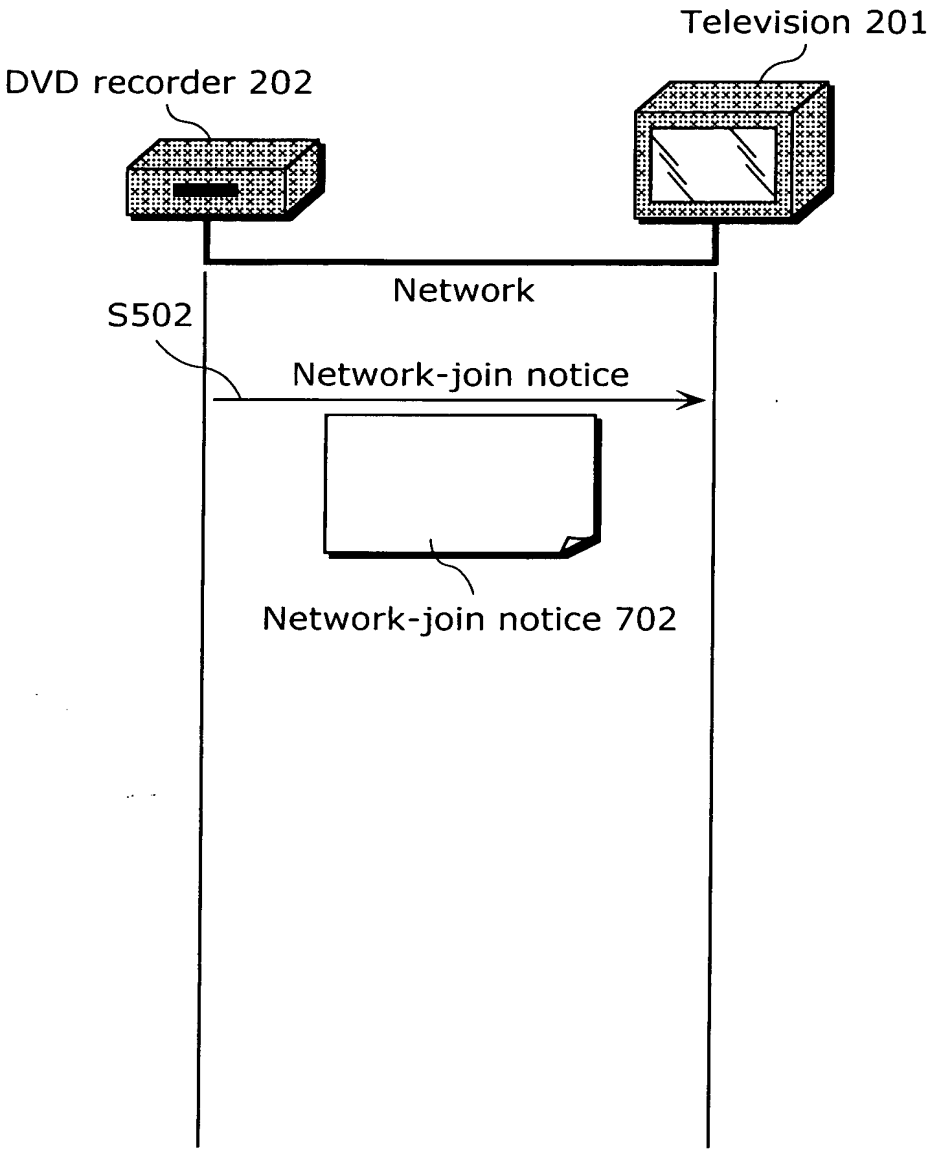

Television 201
DVD recorder 202
Network
S502
Network-join notice
Network-join notice 702

FIG. 6

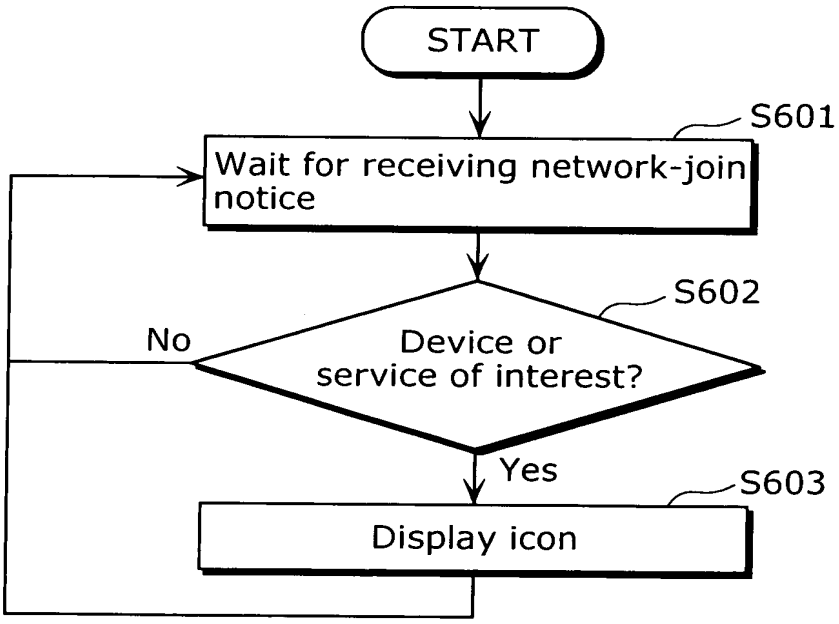

START
S601
Wait for receiving network-join notice
S602
No
Device or service of interest?
Yes
S603
Display icon

FIG. 7

Network-join notice 702

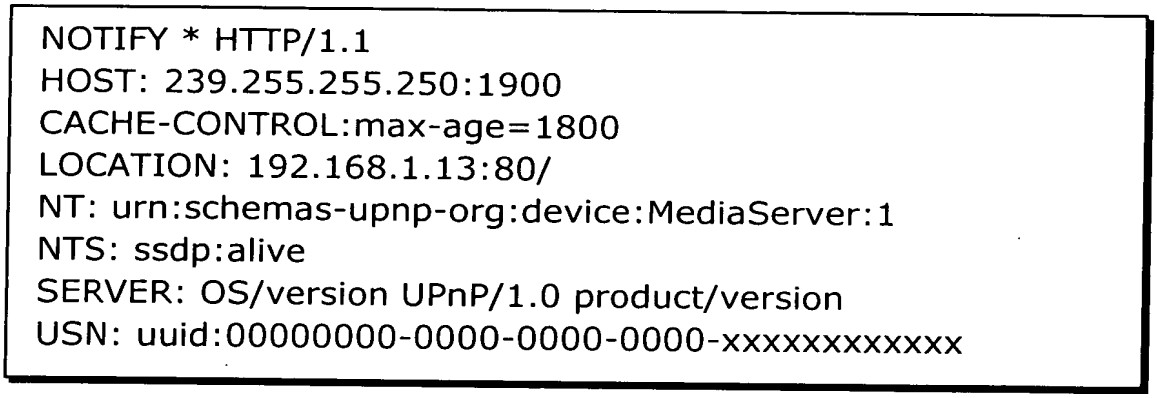


FIG. 8

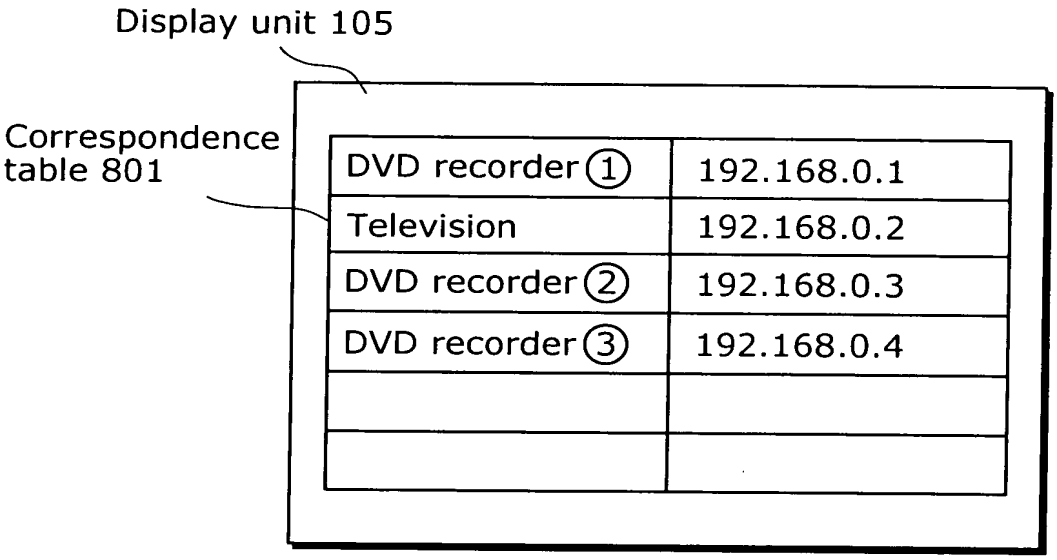

Display unit 105
Correspondence table 801
DVD recorder ①
192.168.0.1
Television
192.168.0.2
DVD recorder ②
192.168.0.3
DVD recorder ③
192.168.0.4

FIG. 9

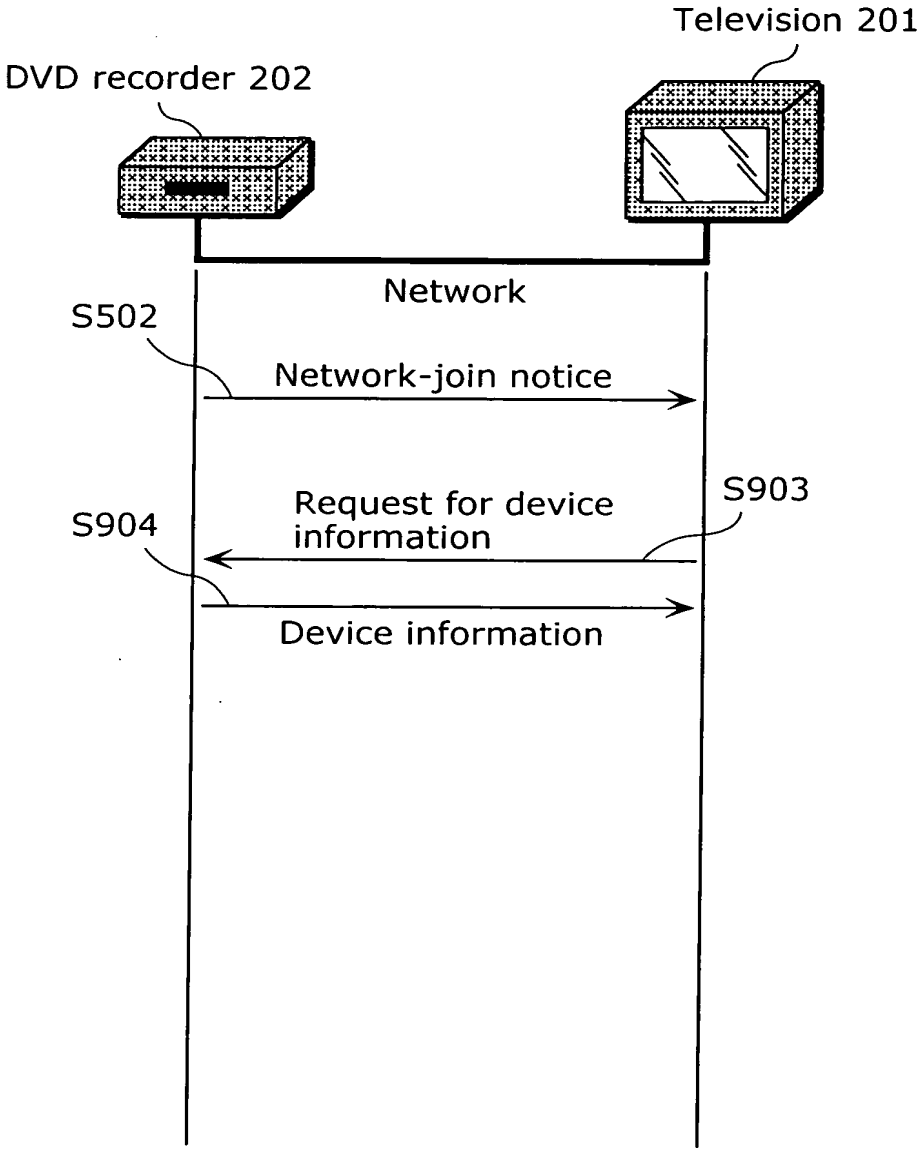

Television 201
DVD recorder 202
Network
S502
Network-join notice
S903
Request for device information
S904
Device information

FIG. 10

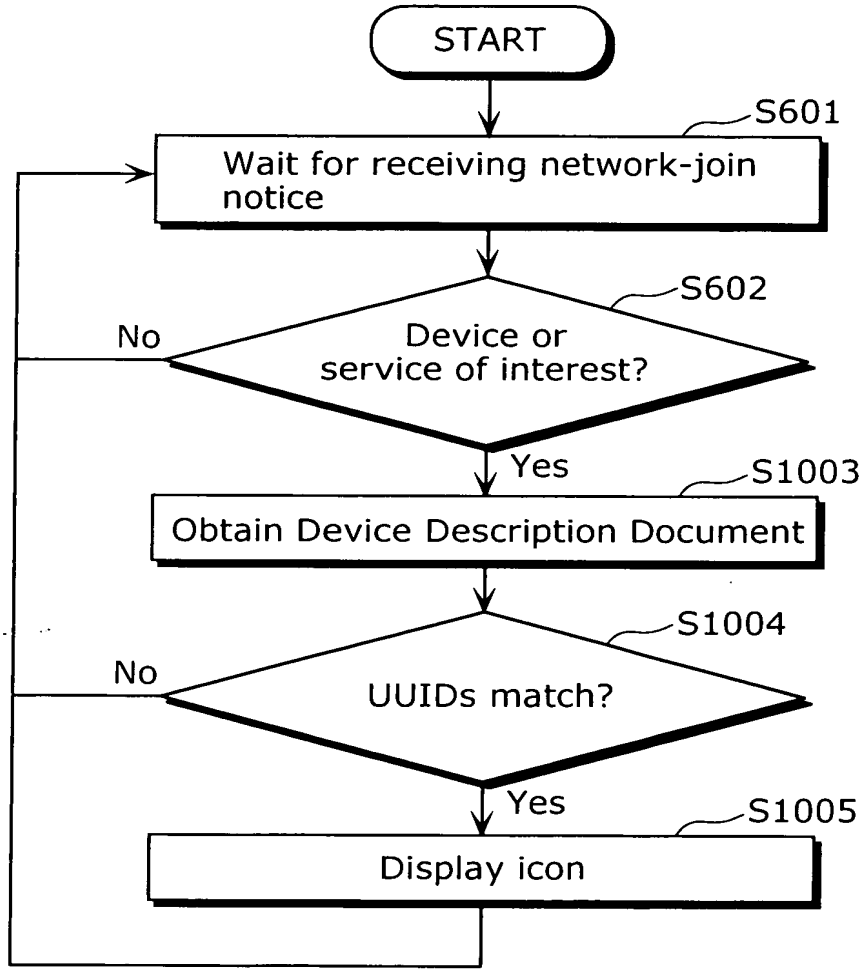

START
S601
Wait for receiving network-join notice
S602
No
Device or service of interest?
Yes
S1003
Obtain Device Description Document
S1004
No
UUIDs match?
Yes
S1005
Display icon

FIG. 11

Device Description Document 1101

```
<?xml version="1.0"?>
<root xmlns="urn:schemas-upnp-org:device-1-0">
 <specVersion>
  <major>1</major>
  <minor>0</minor>
 </specVersion>
 <URLBase>http://192.168.1.13:80</URLBase>
 <device>
  <deviceType>urn:schemas-upnp-org::device:MediaServer:1</deviceType>
  <friendlyName>My MediaServer</friendlyName>
  <manufacturer>XXXX Co., Ltd.</manufacturer>
  <modelName>MediaServerTerminal</modelName>
  <modelName>XX-XXX</modelName>
  <modelDescription>MediaServer</modelDescription>
  <serialNumber>XXX-YYYY-ZZZZ</serialNumber>
  <modelURL>http://xxx.co.jp/yyy/</<modelURL>
  <presentationURL>presentation</presentationURL>
  <UDN>uuid:00000000-0000-0000-0000-xxxxxxxxxxxx</UDN>
  <serviceList>
   <service>
    <serviceType>urn:schemas-upnp-org:service:ContentDirectory:1</serviceType>
    <serviceId>urn:upnp-org:serviceId:ContentDirectory1</serviceId>
    <SCPDURL>/cgi-bin/upnp/get_cds_sdd.cgi</SCPDURL>
    <controlURL>/cgi-bin/upnp/control/</controlURL>
    <eventSubURL>/cgi-bin/upnp/event/</eventSubURL>
   </service>
  </serviceList>
  <presentationURL>/</presentationURL>
 </device>
</root>
```

FIG. 12

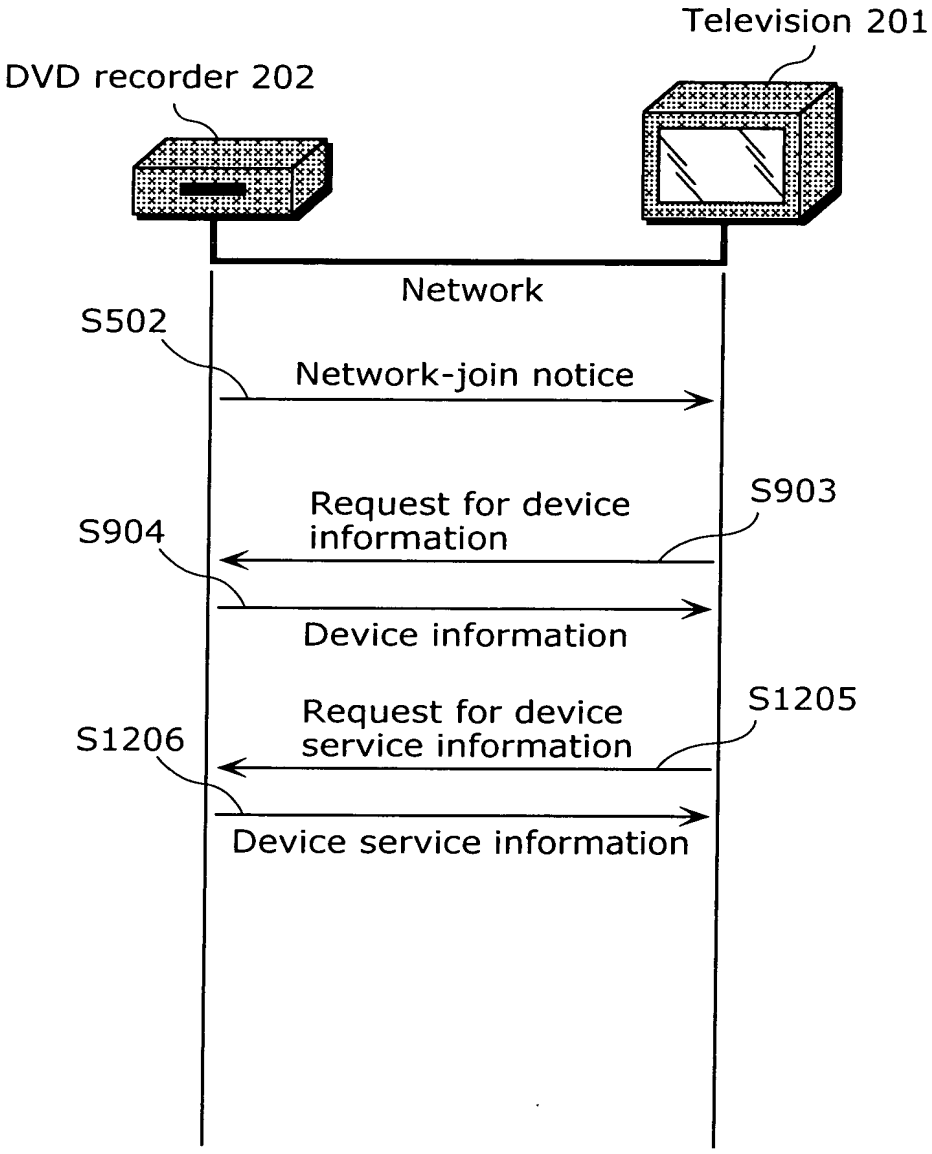

Television 201
DVD recorder 202
Network
S502
Network-join notice
S903
Request for device information
S904
Device information
S1205
Request for device service information
S1206
Device service information

FIG. 13

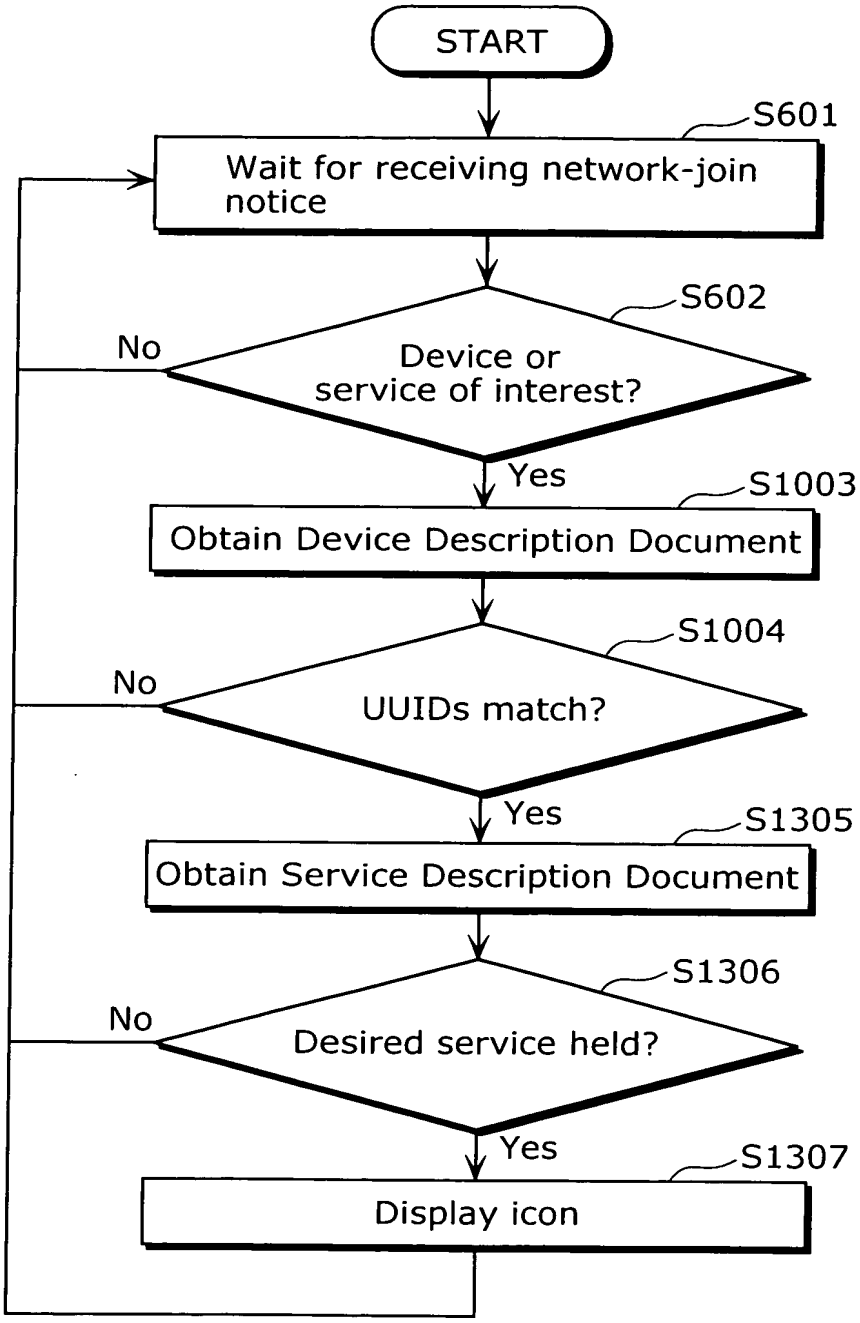

START
S601
Wait for receiving network-join notice
S602
Device or service of interest?
No
Yes
S1003
Obtain Device Description Document
S1004
UUIDs match?
No
Yes
S1305
Obtain Service Description Document
S1306
Desired service held?
No
Yes
S1307
Display icon

FIG. 14

Service Description Document 1401

```
<?xml version="1.0" encoding="utf-8"?>
<scpd xmlns="urn:schemas-upnp-org:service-1-0">
 <specVersion>
  <major>1</major>
  <minor>0</minor>
 </specVersion>
 <actionList>
  <action>
   <name>Browse</name>
   <argumentList>
    <argument>
     <name>ObjectID</name>
     <direction>in</direction>
     <relatedStateVariable>A_ARG_TYPE_ObjectID</relatedStartVariable>
    </argument>
    <argument>
     <name>BrowseFlag</name>
     <direction>in</direction>
     <relatedStateVariable>A_ARG_TYPE_BrowseFlag</relatedStartVariable>
    </argument>
    <argument>
     <name>Filter</name>
     <direction>in</direction>
     <relatedStateVariable>A_ARG_TYPE_Filter</relatedStartVariable>
    </argument>
    <argument>
     <name>StartingIndex</name>
     <direction>in</direction>
     <relatedStateVariable>A_ARG_TYPE_Index</relatedStartVariable>
    </argument>
    ..............................
```

FIG. 15

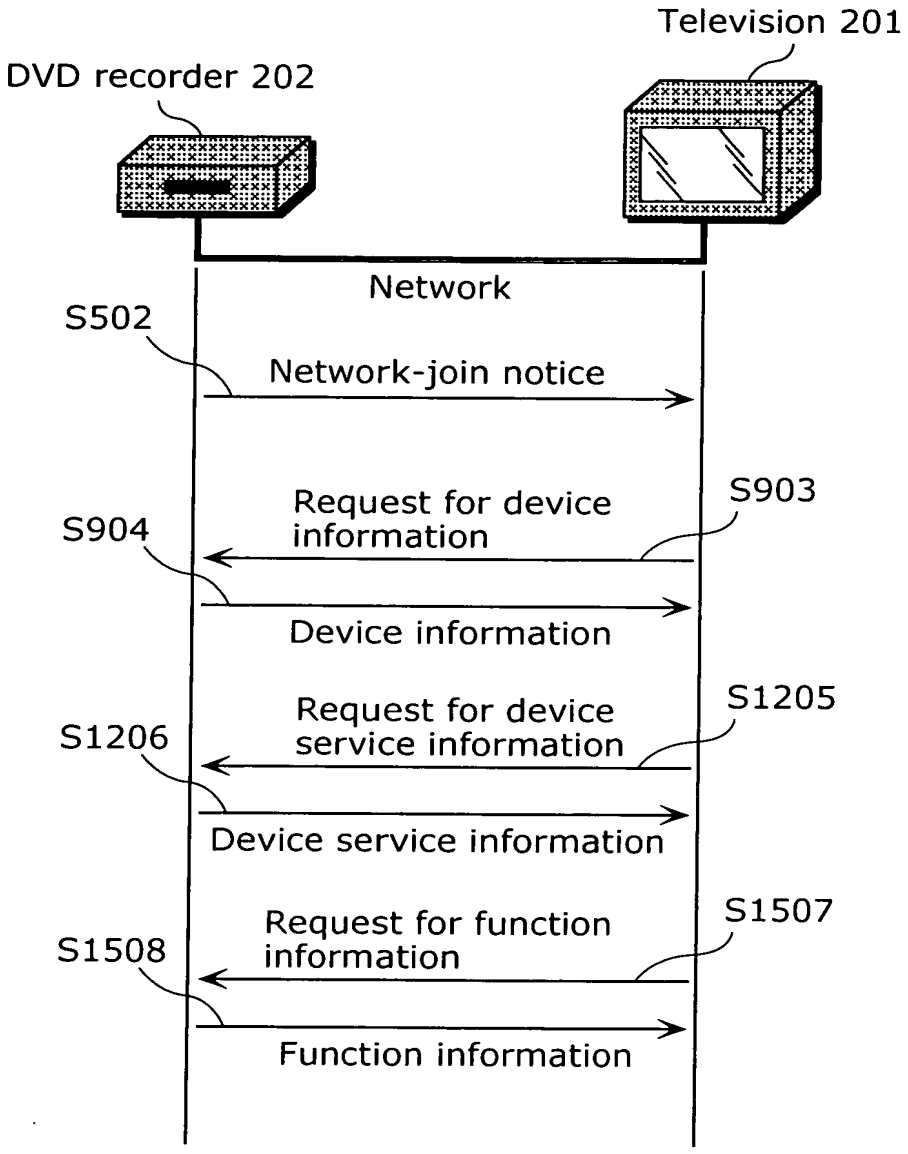

Television 201
DVD recorder 202
Network
S502
Network-join notice
S903
Request for device information
S904
Device information
S1205
Request for device service information
S1206
Device service information
S1507
Request for function information
S1508
Function information

FIG. 16

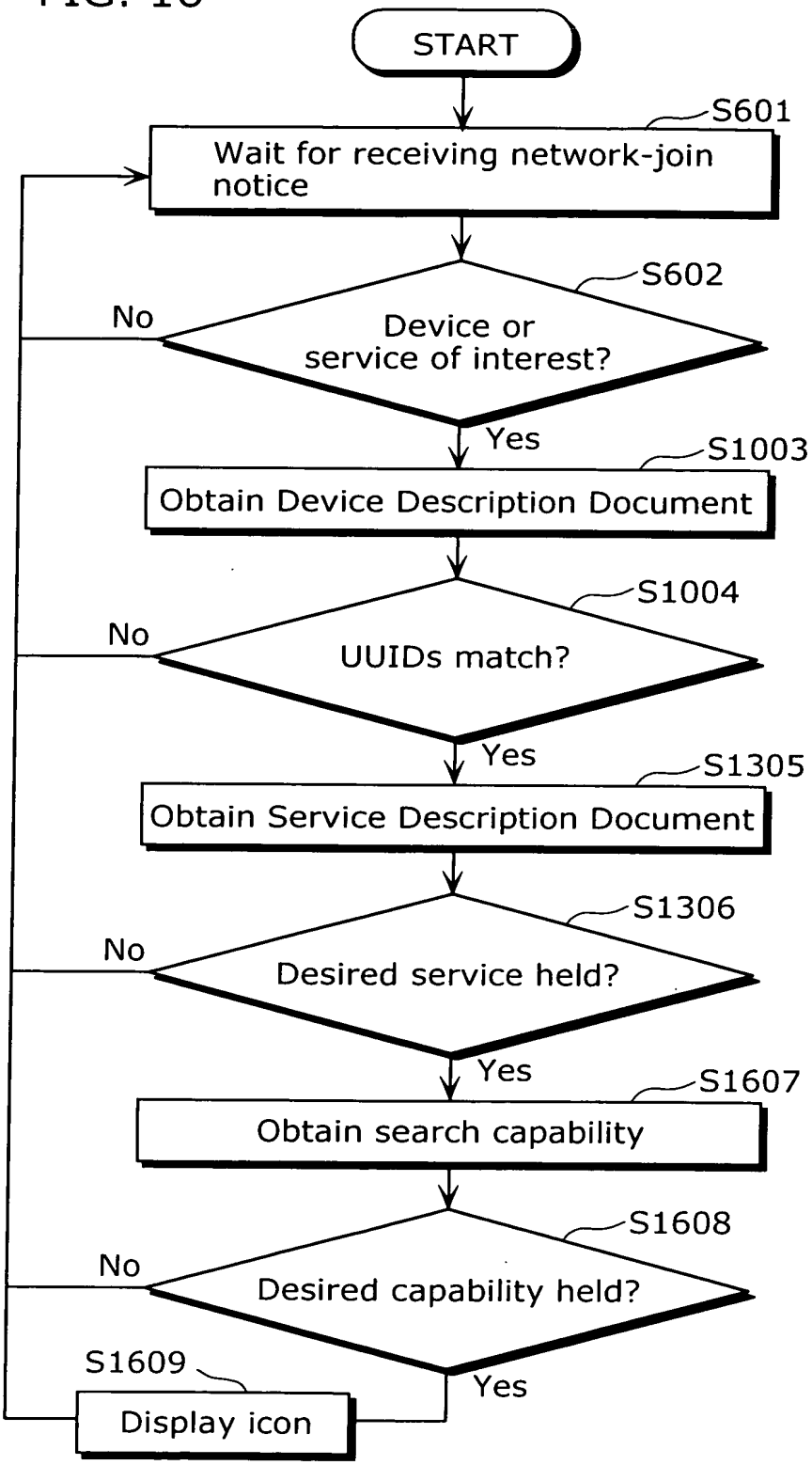

START
S601
Wait for receiving network-join notice
S602
Device or service of interest?
No
Yes
S1003
Obtain Device Description Document
S1004
UUIDs match?
No
Yes
S1305
Obtain Service Description Document
S1306
Desired service held?
No
Yes
S1607
Obtain search capability
S1608
Desired capability held?
No
Yes
S1609
Display icon

FIG. 17

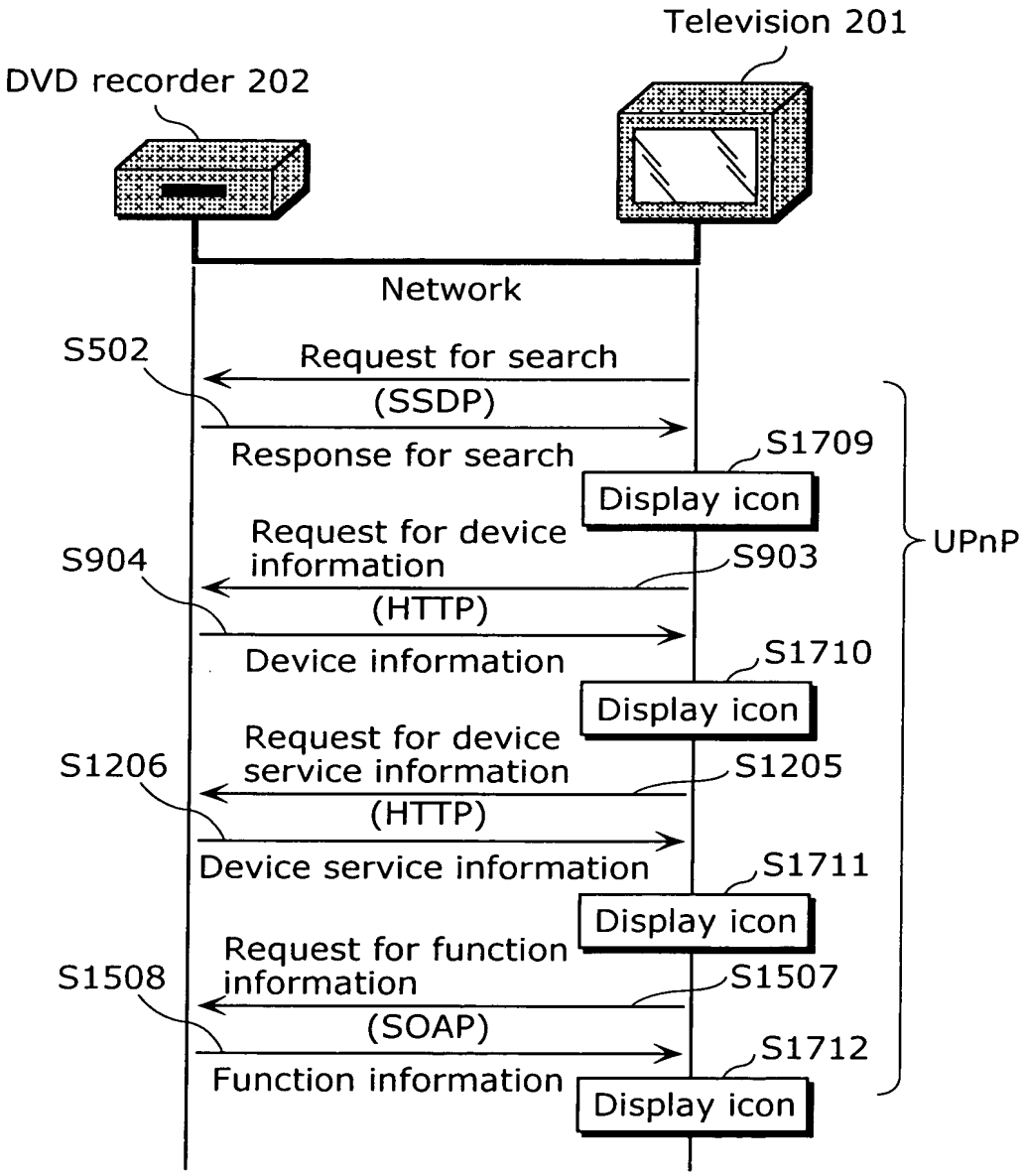

Television 201
DVD recorder 202
Network
S502
Request for search
(SSDP)
Response for search
S1709
Display icon
Request for device information
S904
S903
(HTTP)
Device information
S1710
Display icon
Request for device service information
S1206
S1205
(HTTP)
Device service information
S1711
Display icon
Request for function information
S1508
S1507
(SOAP)
Function information
S1712
Display icon
UPnP

FIG. 18

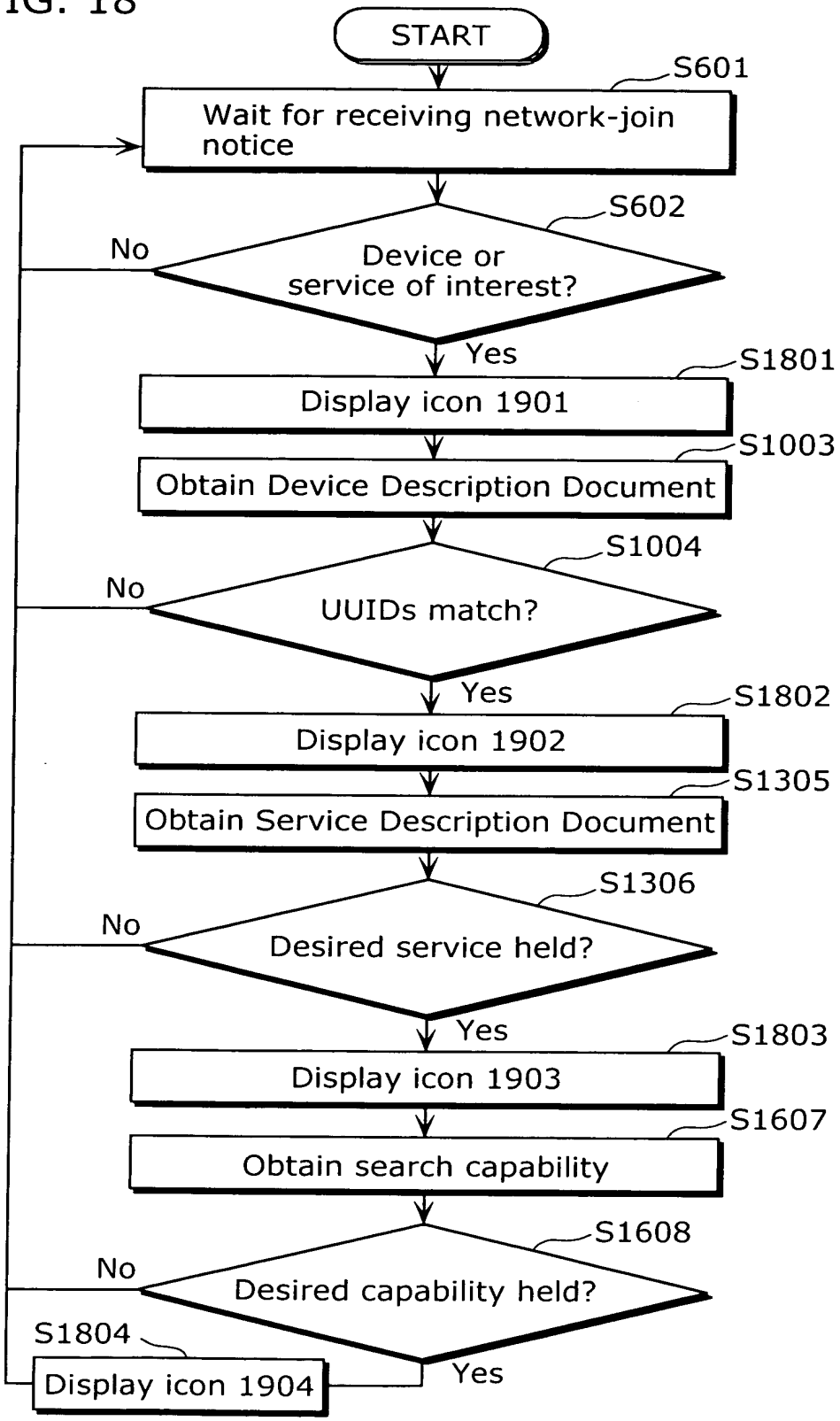

START
S601
Wait for receiving network-join notice
S602
Device or service of interest?
No
Yes
S1801
Display icon 1901
S1003
Obtain Device Description Document
S1004
UUIDs match?
No
Yes
S1802
Display icon 1902
S1305
Obtain Service Description Document
S1306
Desired service held?
No
Yes
S1803
Display icon 1903
S1607
Obtain search capability
S1608
Desired capability held?
No
Yes
S1804
Display icon 1904

FIG. 19

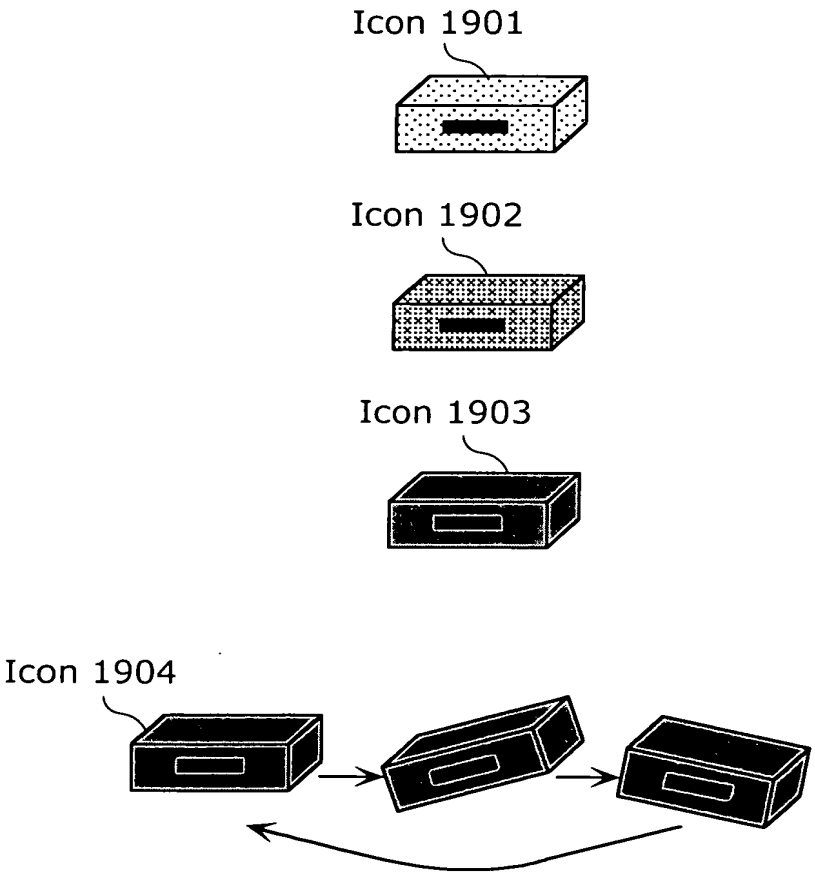


FIG. 20

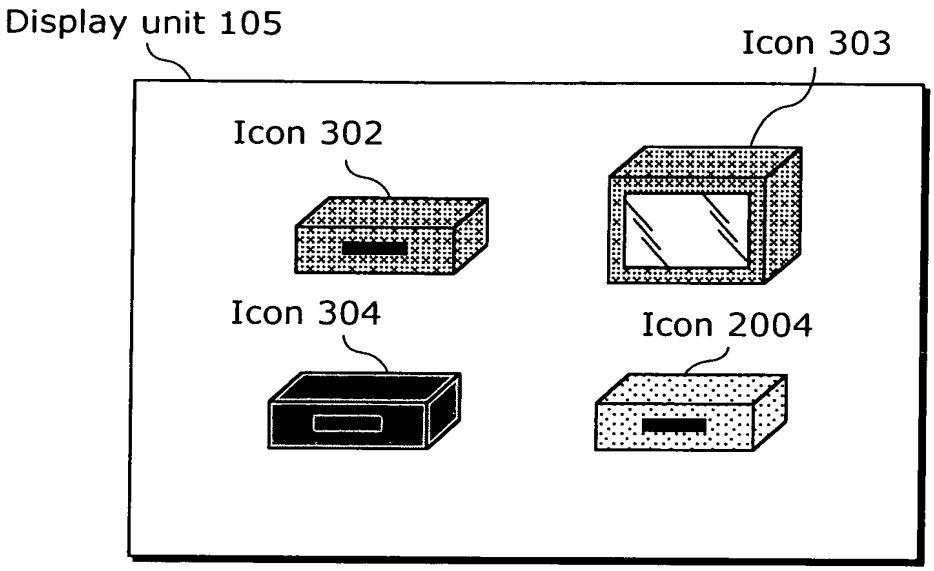

Display unit 105
Icon 303
Icon 302
Icon 304
Icon 2004

FIG. 21

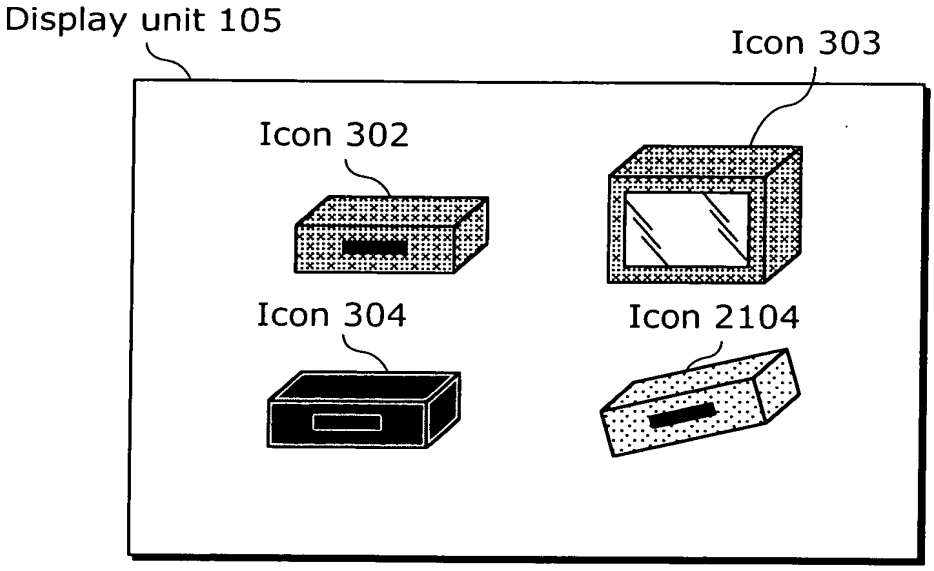
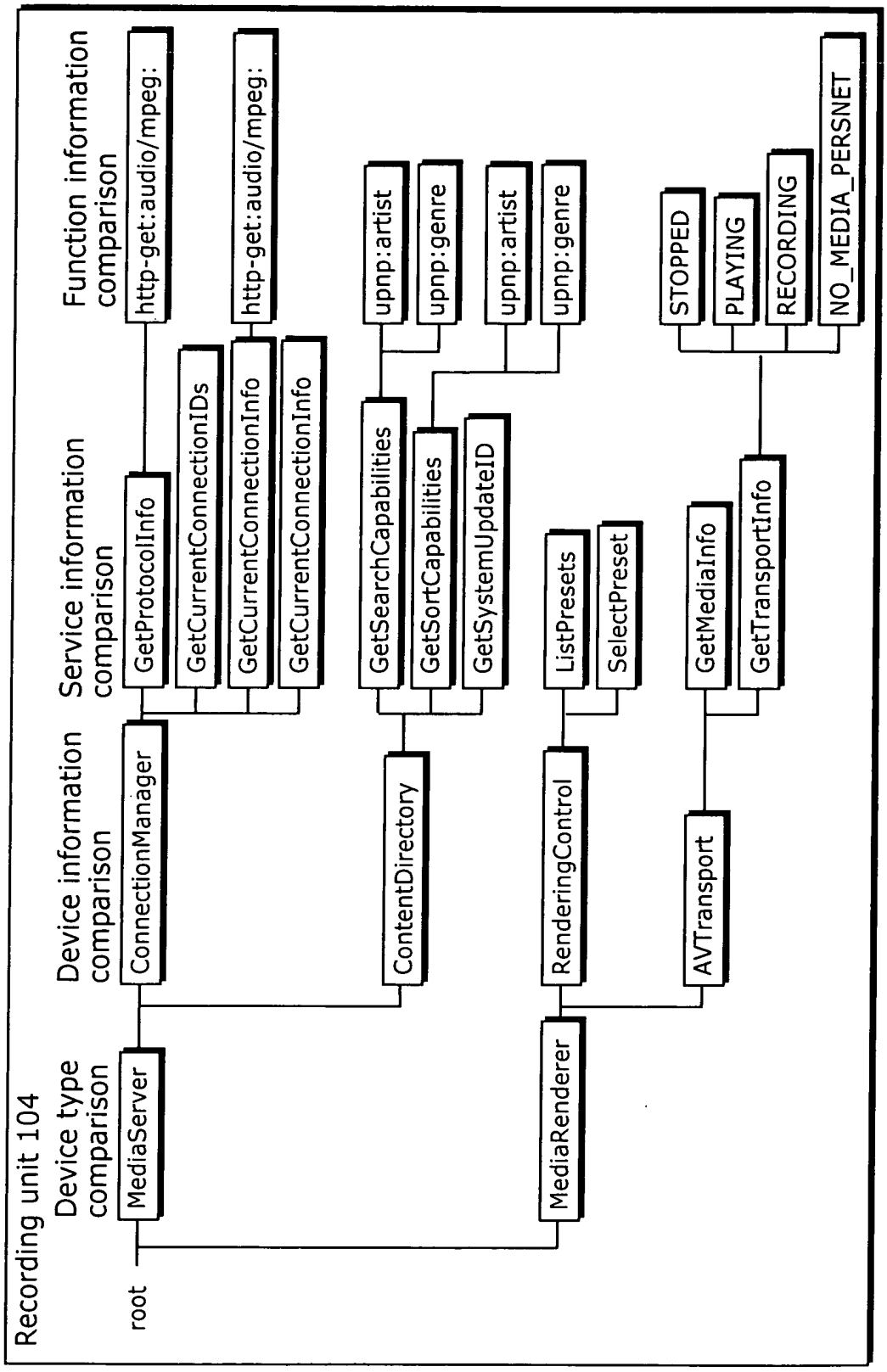

Display unit 105
Icon 303
Icon 302
Icon 304
Icon 2104

FIG. 22


Recording unit 104
Device type comparison
Device information comparison
Service information comparison
Function information comparison
root
MediaServer
ConnectionManager
GetProtocolInfo
GetCurrentConnectionIDs
GetCurrentConnectionInfo
GetCurrentConnectionInfo
http-get:audio/mpeg:
http-get:audio/mpeg:
ContentDirectory
GetSearchCapabilities
GetSortCapabilities
GetSystemUpdateID
upnp:artist
upnp:genre
upnp:artist
upnp:genre
MediaRenderer
RenderingControl
ListPresets
SelectPreset
AVTransport
GetMediaInfo
GetTransportInfo
STOPPED
PLAYING
RECORDING
NO_MEDIA_PERSNET